

Foundations Project

Information Needs Assessment: Summary of Survey Results

Foundations Project
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The **Land Management Information Center (LMIC)**, created under Minnesota Statute 4A.05, is a division of Minnesota Planning. LMIC was established in 1977 by the legislature to promote the use of geographic information and analysis in government. Our office is located in Room 330, Centennial Office Building, 658 Cedar St., St. Paul, MN 55155. Our receptionist can be reached at (612) 296-1211. Materials can be faxed to (612) 296-1212.

Minnesota Planning is charged with developing a long-range plan for the state, stimulating public participation in Minnesota's future and coordinating public policy among state agencies, the Legislature and other units of government.

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Summary

This document summarizes information needs identified by Minnesota residents in three surveys conducted in 1997. The information needs identified in these surveys include data and information collected and managed by all of the EQB agencies participating in the Foundations Project. Thus, the information needs identified apply to varying degrees to all of the agencies participating in the Foundations Project.

Information needs cover a broad spectrum of data and information about Minnesota's environment and natural resources. While there are clearly some topics and types of information that are requested more frequently, diversity of information needs is a key characteristic of "what people want to know." It is important to note the variety and scope of the information needs identified by survey respondents. The "high priority" information needs identified serve as a starting point for creating an access framework; providing these data and information is an important first step in creating access to environmental and natural resource data and information.

High priority information needs were identified using content analysis software to tabulate the frequencies of specific terms in survey responses. These terms were then inspected for common themes. Finally, common information needs or themes were developed for this document.

Several terms appeared frequently in the survey responses. These terms were tabulated as a first step in identifying high priority information needs. The most frequently used terms are as follows:

- Water
- Maps
- Quality (air, water, land, etc.)
- Park (s)
- Minnesota (-'s, MN, MN's)
- Lake (s)
- Pollute(-s,-tion, -ants)
- State (/county,/local)
- Recycle (-ables, -ed, -ing)
- Environment(al)
- Wild (-erness, -life)
- Develop(-ment, -ments)
- Location(s)
- Pesticide(-s, /herbicide)
- Sustainable (-ability)

An examination of terms such as “water” or “pollution” found substantial variety in terms of specific information needs. However, several motives for information seekers emerged from this qualitative inspection of the surveys. These include:

- People want information about the link between environmental conditions and human health, particularly as it pertains to their community. People consistently identified information that would help them understand the interactions between human health and environmental quality. Water quality, air quality, pollution, toxics in products and pesticide use are examples of this information need.
- People want to know the location and variety of recreational opportunities in Minnesota. Survey respondents identified information on hunting, fishing, boating and camping in each of the surveys.
- People want to information about the condition, location and trends in Minnesota’s natural systems such as lakes, rivers, land, habitats, plant and animal populations.
- People want information about the costs and results of public initiatives on behalf of Minnesota’s environment and natural resources. This includes such things as public spending, regulatory activity, new legislation, volunteer opportunities, and the results of public action
- Interactions between the environment and human communities, especially in their community. Many survey respondents sought information about development and the environment, business activity and environment, agriculture and the environment. These responses reflect an interest in general information on these topics and an interest in information about specific activities and communities.
- People identified information to help them learn more about environmental issues and recent events. Issues such as “three legged frogs,” mercury warnings, and use of the BWCA were noted. These information requests also included a desire for information about new laws, public initiatives, state and local policies, and background information to better understand issues in the news.

It is important to note, expert data and information needs were not surveyed in this phase of the project. The data and information needs of local governments, businesses, and other people who both use and create data and information were not surveyed. However, professional private and public data users (i.e. experts) are a critical linkage in meeting the public demand for information about Minnesota’s

environment and natural resources. The complexity of many environmental questions requires a level of time and expertise beyond that of most citizens. Citizens rely on the expertise of local and state professionals , as well as private information vendors, for data and information about Minnesota's environment and natural resources.

Individual agencies and their customers were not the focus of this phase of the information needs assessments. The goal of this phase of the project was to assemble a broad understanding of high priority data and information needs beyond those of any single agency. Individual agencies are likely to receive requests for information that pertain primarily to their policies and programs. These information requests are a valuable resource for structuring access to agency data and information.

Role and Scope of the Data and Information Needs Assessment

The goal of the Foundations project is to identify data and information needs of key information seekers, develop a framework that supports access across agencies, develop a blueprint for implementing this framework, and, finally, to demonstrate this approach through the development of high priority web sites and outreach to the public.

The first step toward these goals is an assessment of information and data needs. The project approached this task by asking the question “What do people want to know about Minnesota’s environment and natural resources?” This question was the basis for our survey efforts.

Methodology

Project staff developed and administered a survey instrument for the 1997 Minnesota State Fair and for the 1997 annual meeting of the Minnesota Library Association meeting. Both events were judged excellent opportunities to ask a broad cross section of Minnesota residents “what they want to know” about Minnesota’s environment and natural resources. Later, the 1997 Minnesota Survey, Minnesota Center for Survey Research, was selected as an additional venue to ask this question as it covers every area of the state and employs excellent survey administration techniques.

The survey results were compiled and analyzed for key information needs. The highest priority information needs were identified using a simple frequency count of terms. The frequency of terms was tabulated using a content analysis software package, VBPro, developed by Dr. M. Mark Miller at the University of Tennessee. The package provides a simple and direct tabulation of terms and their rank order in terms of frequency. The surveys were analyzed individually and compiled into a single data.

In addition to the three surveys, data from the Department of Natural Resources (DNR) were analyzed. The DNR maintains a web site with the capability for patrons to send messages, or “postcards,” to a central DNR mailbox. These postcards reflect a range of DNR customer concerns ranging from requests for information to citizen feedback on current DNR policies and programs. These messages were collected and analyzed using the same techniques applied to the more formal surveys.

However, the data obtained from the DNR website are not included in the compiled analysis of the three surveys. The requests for information were largely specific to the DNR, its policies and programs. However, an analysis of the DNR e-mail requests was completed and included in this document. The results of this tabulation are included in this document.

Survey Results: What do Minnesotans Want to Know about their Environment & Natural Resources?

This section presents the results of each of these surveys and identifies high priority information needs. Content analysis was used to identify the most frequent terms, such as “water,” “land,” “wildlife,” etc. A consolidated list of information needs was developed and analyzed. The information ranking scheme employed in this analysis was one of simple frequency. No effort was made to normalize the variances of each of the surveys. Thus, the consolidated survey responses do not meet the same tests of representativeness as any of the individual surveys.

The more frequently a term was used, the higher its overall priority as an information need. In many instances, common root words were combined to simplify counting. For example “bird” and “birds” might appear in two separate entries. These terms were combined and reported as two instances of “bird(s).” Every effort was made to inspect the context of terms used so as to avoid false counting.

Consolidated terms

Term	Number	Freq.
Water	70	4.851
Maps	54	3.743
Quality (/pollution)	50	3.465
Park	41	2.842
Minnesota (-'s, MN, MN's)	35	2.425
Lake (s)	34	2.357
Pollute(-s,-tion, -ants)	32	2.219
State (/county,/local)	30	2.079
Recycle (-ables, -ed, -ing)	22	1.525
Environment(al)	19	1.317
Wild (-erness, -life)	18	1.247
Develop(-ment, -ments)	17	1.178
Location(s)	17	1.179
Pesticide(-s, /herbicide)	17	1.178
Sustainable (-ability)	16	1.108
Area(s)	14	0.971
land(s)	14	0.971
Prevent (-tion)	14	0.97
River(s)	14	0.97
Monitored (-ing)	13	0.9
Transportation (transport, transit)	12	0.831
Waste	12	0.832

The following broad information needs were identified as high priority information needs. This finding is based on an inspection of the frequency of terms in the consolidated list. The terms listed are qualitatively similar to the most frequent terms identified in the individual surveys. This tabulation represents the best available information to be derived from these surveys at this time. A brief description of the context and intensity of these information needs follows.

Diversity of information needs.

Survey respondents identified a broad spectrum of information needs. While some terms appeared with persistent frequency across all three surveys, these terms represent a relatively small percentage of all of the types of information identified by survey respondents. The information needs identified below represent an excellent first step in developing access. However, it would be grossly inaccurate to characterize this analysis as a definitive summary of Minnesota's information needs.

Water

Information about Minnesota's water resources are the most frequent need identified by survey respondents. Respondents identified general information about the quality of MN's water, information about the status, condition and level of pollution in our water, and broad concerns about water as it affects individual health, recreation and safety. There were also a large number of responses that focused on information about how water quality has been degraded or could be improved by human action.

Maps

The request for map information focused primarily on a desire for geographic information for recreational areas (hunting, camping, fishing, etc.) and for information about a range of specific environmental concerns including such things as contaminated properties and wetlands. The majority of information needs appear to stem from personal rather than professional information needs.

"Maps" of specific features of Minnesota's environment and natural resources are a strong information need across all three surveys. The interest in maps is associated with a demand for clear information about the location of environmental events and natural resources.

Quality (air, water, land etc.)

People used the term “quality” in combination with terms such as “water,” “air,” and “environment.” In general, responses suggest a concern with Minnesota’s environment and natural resources relative to some standard of adequacy. The underlying concern in these responses appears to relate to concerns about human health and wildlife populations. These requests could be served with measures of quality as well as trend information to describe Minnesota’s progress in promoting environmental and natural resource quality.

Information about the relative quality of Minnesota’s environment and natural resources, particularly in the areas of water and air quality, is a strong information need. This term suggests that information that gives a sense of the relative condition of Minnesota’s environment and natural resources will be of value to information seekers.

Parks

Information on Minnesota’s parks clearly focused on a desire to have more information about recreational opportunities around the state. Survey responses focused on such issues as location, facilities, hours, fees and specific activities such as skiing, snowmobiling, fishing, etc. Closely related to “parks” were request for information about public lands, trails, and maps.

Minnesota

The name “ Minnesota” appeared in many survey responses. The use of the term reflects both a response to the survey instructions and an indication that people want information about their home state rather information on national or global environmental issues. This term is not included as a top information need because it conveys little information about “what people want to know.”

Lakes

Information about Minnesota’s lakes appear to be associated with several kinds of information requests. Lake information was requested for recreational purposes. The location, access and condition of lakes for boating and fishing were the most common requests. In addition, information on lakes as habitats and as a natural resource were frequent response. Information about the condition of lakes were often couched in terms of a local concern. People wanted to know if lakes in their area had improved or declined as a habitat or in terms of water quality.

Pollution

Requests for information about pollution were a frequent information request. The interest in pollution likely reflects a broader interest in environmental quality but with a desire for specific information about actions that degrade environmental and natural resource quality. This inference is supported by the large number of requests for information on air and water quality, human health, pesticides and development impacts. Survey respondents want to know who is polluting, what kinds of pollutants are being released and with what effect on human and environmental health. The interest in pollution information is not limited to business polluters; residential and broad development impacts were also frequent concerns about pollution.

State

Respondents used “state” to refer to publicly held or managed resources, policies or and programs. Respondents also referred to other local units of government. The information identified relates to public resources and public action. People want to know about publicly held natural resources and about what their state and local governments are doing to improve the environment and to manage Minnesota’s natural resources.

The term “state” is not included as a high priority information need due to the general nature of the term. However, it is important to note that information requests had a clear focus on the environment and natural resources in Minnesota.

Recycling

People want to know where to recycle, what to recycle and if recycling is making a difference in environmental quality. Related terms may include “toxics in products,” “pollution prevention,” “waste” and “landfills.” However, most of interest in recycling could be met with information about program locations, costs and results.

Environmental

Survey responses indicate a broad interest in environmental quality while interest in natural resources is most often indicated by reference to specific natural resource systems such as forests, lakes, or water quality. The majority of information requests appear to focus on how the environment relates to people’s health or community well being. There were few requests for information that focused on environmental quality as an outcome independent private concern for Minnesota’s environment and natural resources. Provision of information may do well to provide information at a level of detail and in a form that allows people to see the connection between features of the environment and their personal concerns.

Development

The term “development” was most often used in combination with ideas such as sustainable development, urban or new development, and business development. The requests for information focused on a desire to know more about ideas such as sustainable development or for information to explain the impacts of development. Closely related to these concerns, were requests for information about urban sprawl, pollution prevention, run-off and the impacts of residential activities on environmental quality.

Wildlife and Wilderness

Survey responses regarding “wildlife” focused on animal populations and wilderness areas. Respondents expressed a desire for information about individual species, specific areas of the state, and the condition of their natural habitats. Closely related to these requests are the responses on “endangered species,” specific populations such as loons and areas such as BWCA, certain types of forests, lakes and rivers. Some of the requests for information on hunting and migration may also be included in an interest in knowing more about Minnesota’s wildlife and their habitats.

Location(s)

Survey respondents want location specific information about Minnesota’s environment and natural resources. People want to know where parks are located, where water may be contaminated, where pollution is occurring and where state. This interest in locations appears to be related to an interest in information about their communities, recreational choices and a general interest in specific information about the environment and natural resources.

The need for location-specific information may be related to an interest in “maps.” The desire for information that is specific to places was a common theme across several topics and may suggest strategies for data and information delivery.

Pesticide(-s, /herbicide)

Pesticide and herbicide use appeared in all three of the surveys conducted for the project. Generally, survey respondents sought information about pesticide use as it relates to water quality and human health. Respondents asked for information about both residential and agricultural uses of pesticides. People wanted to know both the potential for environmental degradation and where the use of pesticides had caused harm.

Sustainable (-ability)

The term “sustainable” was mainly used in relation to the terms “development” and “agriculture. The survey responses generally sought more information about what Minnesota is doing to promote sustainability.

Qualitative interpretation of the survey responses

The survey responses suggest broad themes of data and information needs. The following offers general categories of information organized by themes that cut across specific information needs. This discussion reflects a qualitative inspection of the survey responses.

Generally, people want information rather than data. However, the number and variety of types of information that people want suggest that data will have to be available in a form that allows people to assemble information for themselves. There are also a number of areas where people clearly want the data so they can form their own opinions.

Information needs appear to fall into two broad categories: (1) information about the condition of Minnesota’s environment for its own sake, (2) information about the environment as it relates to personal or community interests. The first category of information seems to come from a concern that Minnesota is preserving and managing its environment and natural resources. The second type of information need is environmental issues that affect human quality of life. Air pollution, access to parks, hunting areas and ski trails are all interests that people expressed. Most information needs are motivated by a personal interest in environmental quality or discrete aspects of the environment and natural resources (hunting, fishing, etc.).

Descriptions of Minnesota’s natural resources and natural systems. People want to know the condition of specific natural systems, such as air, rivers, wildlife, fish populations, etc. Survey responses often include requests for trend information on the condition of these systems.

People want to know how human action affects Minnesota’s environment and natural resources. The effects of residential development on habitats, the effects of pesticide use on ground water and the impacts of pollution on air and water quality were cited frequently. These information needs seem to be motivated by a desire to understand the environmental consequences of our business and residential activities. Interaction are one of the most persistent themes in the survey responses.

People want to know what their governments are doing in the areas of environment and natural resources. Many of the information needs expressed appear to be motivated by a desire for greater accountability between governments and taxpayers. People want to know what kinds of government programs are in place, how much these programs cost, what are the results of these programs, and where projects are planned in the future. People also want to find out how they can participate in current efforts like recycling, conservation projects and so forth. People want to know how to get in touch with state and local government officials, presumably so they can get their questions answered directly or to report concerns. People also wanted to know how governments are addressing specific concerns such as contaminated lands, three-legged frogs, pollution from businesses and urban sprawl.

These kinds of information needs may be served by such things as breakouts on program costs, agency budgets, program evaluation results, contact information for agencies and programs, maps of program areas and locations, information about how to participate in state and local projects.

Environment and human health concerns relate primarily to the effects of pollutants on human health. Water quality, air quality, contaminated lands, toxics in products, and pesticides in water and on food are frequently cited information needs. In addition to the general concern over health effects of pollution, people want to know where the pollution is coming from and what is being done to address these issues. Information on contaminated lands, point and area sources of pollution, areas where pesticides are applied, and what kinds of habitats (human and otherwise) are affected are clearly implied by these respondents. People also expressed concern about the impacts of pollution and development on natural habitats.

Recreational opportunities figured prominently in the survey. People want to know where and when they can take advantage of recreational opportunities in Minnesota. They also want information and services available via the Internet for convenience. Examples include park locations, schedules and rates, fishing licenses and regulations, ski trails and rules, information for hunting and fishing. Maps were also a frequent information request. However, people expressed more interest in Maps than they did in GIS data. This suggests that people want to use the information on prepared maps rather than engage in the expert activities that GIS activities would be used for.

Expert information needs were not surveyed. The results of the Metro GIS project may give so insight as to what kinds of inter-agency information needs exist. The Metro GIS project focuses primarily on county to county information needs and may not give sufficient insight as to the needs of state agency information needs. However, a similar effort at the state level might use the Metro GIS process as a guide in developing inter and intra agency data and information needs assessment.

Project implications

The data and information needs identified in the survey analysis suggests a number of design elements for an access system. The following offers a variety of outcomes and design elements which may contribute to the development of a access framework.

- **Most respondents want information not data.** However, the nature of their requests for information will require substantial coordination of data resources. These data, once assembled can be made accessible to other information seekers.
- **People want information that relates the environment to their personal concerns.** The information requests are often personal and local in nature. For example, people want to know about water quality in their area, or hunting opportunities for personal recreation.
- **People want information to answer specific questions:** People asked questions such as, “How is my government spending tax dollars? Is there improvement in specific things that I care about? Is my water safe to drink? Where are the parks and when can I use them?”
- **Meeting public information needs is likely to require inter-agency collaboration.** Many of the information needs cut across several areas in an effort to understand the interactions between human action, environmental quality and human or species specific well being. Examples include requests for information about pesticides and water quality, business pollution and air quality, development and pollution.
- **Maps are a key to many information requests.** This suggests that people want information that they can use and also find maps a convenient way to summarize information about the environment and natural resources. Requests for maps included maps of specific features such as “good trout streams” and general information such “ground water contamination and business locations.
- **The demand for information described by individual agencies is likely to differ from a broad assessment of cross agency information needs.** The design of individual agency web sites is driven by customers information needs and service requests. Creating and preserving a broader view of information needs while using agency specific information needs assessments will be a challenge for the project.
- **People want information that cuts across agency and program lines.** These information needs will require a high degree of integration and data sharing among state agencies, and, eventually, across levels of government. For example, roads

and habitats, lakes and well water data for adjacent communities, would require information from several state agencies, city and county governments. Data architecture that supports inter-agency and intergovernmental data sharing is an important long term design concern.

Appendix I: 1997 Minnesota State Fair Survey

The project undertook a survey of attendees of the 1997 Minnesota State Fair. All surveys were distributed and collected at the fair. Surveys were administered by project staff and EQB member agency staff at agency booths at the fair. The survey was administered during the entire State Fair.

Descriptive statistics of the survey respondents are as follows:

- 176 surveys were completed
- 95% of survey respondents reside in Minnesota
- 73% of the Minnesota residents responding to the survey live in the seven county metro
- The median age of the respondents 36.5 with a range of 9 to 78. This compares favorably with a 1990 media age of Minnesota residents of 32.5 reported by the US Census.
- 63% of the respondents have access to the Internet. A 1997 estimate for the US is 15.06% of all households have access to the Internet.
- Average household size of survey respondents was 3 people as compared to a median household size of 2.58 for Minnesota in 1990.

Respondents reported that they use the following sources: Newspapers 71%, Television 54%, Radio 52%, Community Org. 19%, Internet 17%, Books and Magazines 45%, Public meetings 11%, Local Government Reports 9%, State Govt. Reports 13%, and Federal reports 7%

Some survey respondents did not follow the survey instructions. They marked examples listed on the survey form. The most common categories marked were: Water quality 10%, BWCA 8%, Maps 8%, Critical Habitats 6%, Park Locations and Hours 5%, and Endangered Species 5%.

The most common concerns identified in the written survey responses related to the areas of:

Top 20 categories from a consolidated list of categories

Term	Number	Freq.
ENVIRONMENTAL (-LY)	35	0.214
WATER (S)	35	2.496
PARK (S)	33	2.354
POLLUTE (-TION, -ED, -ING, -ANTS)	30	2.139
MAP (-S, -ING)	26	1.854
MINNESOTA (-NS, -'S)	25	1.783
STATE	25	1.783
LAKE (S)	24	1.712
ENERGY	21	1.498
RECYCLE (-D, -ING)	20	1.427
HEALTH	18	1.284
LAND (S)	18	1.284
PESTICIDE (S)	18	1.284
AREA (S)	17	1.213
ENDANGERED	17	1.213
SPECIES	17	1.213
SUSTAINABLE	16	1.141
BWCA	15	1.07
AIR	14	0.999
DEVELOPMENT (-ED)	14	0.998

The majority of survey respondents were interested in various aspects of Minnesota's environment such as water quality, air quality and pollution.

In general, survey respondents showed interest in broad environmental concerns that affect their lives. Health and environment, development impacts, energy use, and information about local environmental conditions figured prominently in survey responses.

People are also are interested in natural resources that they make use of or are important to their community. For example, there were few requests for information about mineral resources or snail populations but many requests for information about recreational opportunities, and gamefish. Lakes and fish are certainly natural resources.

Survey respondents indicated an interest in maps showing environmental conditions or the location of such things as parks, lakes, fishing and hunting areas and pollution. The interest in maps was not described in terms of a desire for geographic information data sets. Rather, survey respondents see maps as an effective way to get information about Minnesota's environment and natural resources.

Appendix II: 1997 Minnesota Library Association Survey

Libraries routinely provide access to information about Minnesota's environment and natural resources. Librarians are, therefore, uniquely situated to describe the most common information needs of their patrons. The Foundations Project administered a survey at the 1997 Minnesota Library Association (MLA) annual conference. The conference attendees came from all areas of the state and represented city, state, k-12, post-secondary and private information service vendors. The majority of librarians responding to this survey identified themselves as reference librarians.

- 68 surveys were completed during 1 and a half days at the 1997 MLA conference in Bloomington, MN.
- 90% of the surveys were completed by librarians working in Minnesota.
- 28% of the surveys were completed by librarians working in the seven county metro area
- 90% of the respondents have access to the Internet in their library.
- The number of patrons served annually ranged from 100 to over 100,000

Respondents reported that their patrons obtain information from the following sources: Newspapers 78%, Television 60%, Radio 34%, Local Community Org. 16%, Internet 69%, Books and Magazines 60%, Public meetings 25%, Local government reports 26%, State government reports 28%, and Federal government reports 22%

The categories most frequently checked were: Water quality 4%, Pollution Prevention 3%, Park Locations 3%, Air Pollution 3%, Endangered Species 3%, Environmental Health 3% and Maps 3%. The respondents to this survey followed the survey instructions and thus used the opened ended questions to record most of their responses.

The most commonly cited information needs among MN library professionals were in the areas of:

Term	Number	Freq.
Water (s)	25	4.941
Endangered	20	3.953
Pollution (-ants)	20	3.953
Quality	20	3.952
Environment (-al)	17	3.36
Map (s)	16	3.162
Lake (s)	12	2.372
Park (s)	12	2.372
Species	12	2.372
Issues	10	1.976

Energy	9	1.779
Air	8	1.581
Minnesota (-'s)	8	1.581
Area (s)	7	1.383
Information (info)	7	1.384
River (s)	7	1.384
Waste (s)	7	1.384
BWCA	6	1.186
Health	6	1.186
Recycling (-ed)	6	1.187
Species	6	1.186
State	6	1.186
Animals	5	0.989
Transportation	5	0.989
Conservation	4	0.791

Attendees at the 1997 Minnesota Library Association Meeting were asked to describe their most frequent information requests. The survey responses reflect the experience of the librarians as professionals rather than their personal interests.

The majority of survey responses come from librarians serving communities outside the Twin Cities metropolitan Area.

- Water issues, and general environmental quality, are the most frequently cited information need.
- Pollution, endangered species and endangered natural systems are also frequently cited information needs.
- Many of the information requests stem from an interest in environment and natural resource information as it relates to specific state and local issues.
- Maps were a clear and specific information request. Again, the interest in geographic information appears to be motivated by the use of maps rather than by a desire to have access to data per se.

Appendix III: 1997 Minnesota Survey, Minnesota Survey Research Center, University of Minnesota

The Foundations Project contracted with the Minnesota Center for Survey Research. The Center included two open-ended questions in their state-wide survey.

The sample characteristics of the respondents closely approximates Minnesota's general population. The survey is designed and administered to ensure that the sample responses approximate Minnesota's population.

The most common information needs identified by survey respondents are as follows:

Note: if the category of water was broadened to include rivers, lakes, streams, etc., this category of information needs would be even larger.

Foundations Project Frequency Count

Term	Number
WATER (-s)	60
POLLUTION (-ed, -ers, -ing, -ants)	38
INFORMATION (info, inform)	37
QUALITY	33
LAKE (-s)	31
ENVIRONMENT (-al, -ally)	29
CLEAN (-ing, -up)	25
AIR	23
STATE (s)	22
PARKS	20
("Money" and "Spending")	(20)
INTERNET	18
RECYCLE (-d, -ing)	15
RESOURCES	15
AREA (-s)	13
AVAILABLE (-ility)	12
MONEY	11
PROTECT (-ed, -ing, -tion)	11
IDEA (s)	10
NATURE (-al)	9
RIVER (s)	9
SPEND (-ing, t)	9
WASTE (-s, -ed)	9
CAMPING (-ground, -side)	6
COMPUTER	6
ANIMAL (-s)	5

MN Center for Survey Research Categories

Category	Count	%
Water quality	199	16.6%
Other	101	8.4%
Recreation Areas	95	7.9%
Air pollution	85	7.1%
Protect resources	82	6.8%
Wildlife	57	4.7%
Don't use Internet	51	4.2%
Forests	43	3.6%
Recycling	40	3.3%
Environmental cleanup	35	2.9%
Natural resources	33	2.7%
Agriculture	32	2.7%
Policy decisions	27	2.2%
Business Polluters	26	2.2%
Volunteer Opportunities	26	2.2%
Fishing	25	2.1%
Environmental threats	25	2.1%
Wetlands	24	2.0%
DNR info	21	1.7%
Hunting	20	1.7%
Places to visit	18	1.5%
Environmental Laws	18	1.5%
Person to person	16	1.3%
BWCA	14	1.2%
Legislative Updates	13	1.1%
Waste disposal	12	1.0%
Lottery money	9	0.7%
Pollution	9	0.7%
General envir. Information	9	0.7%
Wilderness preserv	8	0.7%
Deformed frogs	7	0.6%
Lawn chemicals	6	0.5%
Environmental groups	6	0.5%
Hazardous wastes	5	0.4%
Landfills	5	0.4%
Total	1201	100.0%

- Many people “don’t know” what kind of environmental data or information they would like to access. It may be that some respondents simply couldn’t think of something at the time; there may be a substantial number of people who do not consider the environment a high priority. Or it may be that the scope of the question was too large and respondents, for whatever reason, didn’t know where to begin. Regardless of the explanation, the project would do well to include this very large category of people in its design work.
- Water quality was the highest priority information need in the survey. Questions range from concerns for personal health and safety to natural resource and habitat concerns involving water resources.
- “Recreation” was also a frequent survey response. Respondents identified such items as parks, trails, hunting and fishing and access to other natural amenities in Minnesota . Taken as a group personal recreational interests are a high priority information need.
- “Air Pollution” was a frequent concern registered by survey respondents. Air quality was the most frequent common concern specific to pollution. However, analysis of terms shows that information about air, water , land and general environmental quality are a high priority for survey respondents.
- Protecting (natural) resources was a common information request. People want information about the status and trends in Minnesota’s environment and natural resources. These information needs range from interests in wildlife habitats to and natural systems.
- There are a variety of specific topics and issues identified by survey respondents including such things as – mercury in fish, three legged frogs, etc. These information needs appear to be related to recent media coverage of specific environmental and natural resources issues.

Appendix IV: DNR e-mail Requests for information

The DNR website is a rich source of information about client preferences and interests. Many of the messages received indicate specific information or data needs of Minnesota residents. The comments differ from the survey results in several important respects. The comments are clearly agency specific. People ask questions after finding the DNR website and searching it for specific information. Rather than answering “What do you want to know about MN” these comments address the question “what do want from the DNR”

The comments from the DNR survey while often similar to the survey results reflect a specific interest in the policies and programs of the DNR. For this reason, the DNR comments were not included in the analysis of survey results. There are however several ways in which the DNR comments can contribute to the information needs assessment phase of the project.

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Major themes

Revised list of top terms

Term	Number
LAKE (-s, -shore(s))	253
MINNESOTA (MN)	223
INFO (-rm., -mation, -al -mative, -rmed)	221
HUNT (-able, -ed, -er(s), -ing, -s)	169
AREA (-s)	141
STATE (-s, -wide)	120
SITE (-s)	119
FISH (-ed, -er, -eries, -erperson, -es, -ing, -trap)	117
DNR	90

TIME	90
DEER	88
HELP	87
COUNTY	65
MAPS	65
TRAIL (s)	65
SEASON	64
RIVER (-bank, -land, -s)	62
WEB	56
LICENSE (-ees, -ed, -s)	52
LAND (-s, -owners)	46
PARKS	46
AVAILABLE (-ility)	44

These information requests differ from other information requests in several respects: (1) all of the information requests were made by people with Internet access, (2) all of the information seekers found the DNR homepage and determined that the DNR staff could help them find information, (3) information seekers were not asked to identify what information they want access to; they have identified a discrete information need pertinent to the DNR.

- Information requests received by the DNR reflect the interests of their clientele. The vast majority of information requests pertain directly to the policies and programs of the DNR.
- DNR customers want information about Minnesota lakes. Most of the information requested is for personal recreation, such as fishing or boating.
- Hunting, fishing and information for recreational activities comprise a large part of the information requests. Here again the interest in this information appears to be motivated by personal recreation goals.
- DNR information requests also include a large number of inquiries regarding rules and licenses. People want to know where and when they can hunt, fish, use trails and so forth. This group of information seekers appear to be a good candidate for electronic commerce.